

CLIPPEDIMAGE= JP401179455A

PAT-NO: JP401179455A

DOCUMENT-IDENTIFIER: JP 01179455 A

TITLE: MANUFACTURE OF SEMICONDUCTOR DEVICE

PUBN-DATE: July 17, 1989

INVENTOR-INFORMATION:

NAME

IWAMORI, TOSHIMICHI

INOUE, AKITAKA

ASSIGNEE-INFORMATION:

NAME

FUJI XEROX CO LTD

COUNTRY

N/A

APPL-NO: JP63001557

APPL-DATE: January 7, 1988

INT-CL (IPC): H01L029/78;H01L021/22 ;H01L021/265

JS-CL-CURRENT: 438/297,438/FOR.199

ABSTRACT:

PURPOSE: To form low-concentration diffused layers thinly in full by a method wherein an impurity in an SOG film is diffused in a substrate to form first diffused layers and ions are implanted in a self-matching manner using the thick gate sidewall parts of this SOG film and a gate electrode as masks to form second diffused layers.

CONSTITUTION: A gate oxide film 2 is formed on a substrate 1 and moreover, a gate electrode 3 is formed on this gate oxide film 2. A phosphorus or arsenic-doped SOG film 4 is coated from over the electrode 3 and thereafter, an impurity is diffused from the film 4 to form first diffused

layers 5. Then,  
ions are implanted in a self-matching manner using the  
thick gate sidewall  
parts of the film 4 and the gate electrode as masks and  
successively, the whole  
is heated to perform an activation and second diffused  
layers 6 are formed.  
Finally, as the film 4 becomes thicker than other part at  
the parts of both  
sides of the electrode 3, the first diffused layers 5  
become thick at parts,  
which correspond to both sides of the electrode 3, of the  
layers 5 and are  
formed very thinly at other parts other than the above  
parts.

COPYRIGHT: (C)1989,JPO&Japio

CLIPPEDIMAGE= JP408195487A

PAT-NO: JP408195487A

DOCUMENT-IDENTIFIER: JP 08195487 A

TITLE: MANUFACTURE OF SURFACE TUNNEL TRANSISTOR

PUBN-DATE: July 30, 1996

INVENTOR-INFORMATION:

NAME

KAWAURA, HISAO

ASSIGNEE-INFORMATION:

NAME

NEC CORP

COUNTRY

N/A

APPL-NO: JP07003680

APPL-DATE: January 13, 1995

INT-CL (IPC): H01L029/66;H01L029/06 ;H01L029/78

ABSTRACT:

PURPOSE: To enlarge an interband tunnel current when applying voltage to a drain, by diffusing impurities in high concentration into a semiconductor substrate from an oxide film containing impurities in high concentration thereby forming a shrunk and retreated drain in a sharp impurity profile, with the sample at high temperature for a short time.

CONSTITUTION: An SOG 107, which contains phosphor in high concentration, is applied all over the surface of a wafer, and annealing is performed with an infrared ray lamp so as to dope the inside of an n-substrate 101 with phosphor. At this time, the source region covered with an oxide film is not doped with phosphor, and only the drain region where the n-substrate 101 is exposed is

doped with phosphor. Due to the annealing for a short time at high temperature, an n<sup>+</sup>-diffusion layer 106 adjacent to a gate polysilicon 103 is made shallowly in high concentration, and section adjacent to the gate polysilicon 103 shrinks and retreats, and the impurity profile becomes sharp. As a result, an interband tunnel current which flows when voltage is applied to the drain becomes large, and high-speed capacity of the element can be materialized.

COPYRIGHT: (C)1996, JPO

	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BFS	L1	1420	(form or forming or formed) adj3 (barrier adj layer) same (diffuse or diffusion)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/01/02 18:52
2	BFS	L3	0	1 and 2	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/01/02 18:53
3	BFS	L2	53	(form or forming or formed) adj3 ((silicon adj oxide adj glass) or SOG) same (impurity or impurities)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/01/02 19:09
4	BFS	L4	2931	diffusion adj barrier adj layer	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD E	2003/01/02 19:11
5	BFS	L5	1351	4 same (SOG or (silicon oxide))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD E	2003/01/02 19:12

	Type	L #	Hits	Search Text	DBs	Time Stamp
6	BRS	L6	79	5 same (impurity or impurities)	USPAT; US-PGP; UB; EPO; JPO; DERWEN T; IBM_TD B	2003/01/02 19:28
7	BRS	L7	8	(diffus\$6) adj10 (impurit\$6) adj10 (SOG)	USPAT; US-PGP; UB; EPO; JPO; DERWEN T; IBM_TD B	2003/01/02 19:31